Basic Directions for Use of Sample OCS EIM (Arctic)

Organization of Document

1. Instructions for use of sample model (4 files), plus step-by-step comparison with fully functional models.
2. Notes on fully functional models (to be made available to contractor selected).

Basics for Demo Models

1. Examine OCSEIM.sample.Arctic.E&D.xls, which contains the Exploration & Development scenario (and production profile) that drives the estimates. For the demo model, this file itself serves no function, as the numbers have been copied to Arctic_IMPAK.xls, replacing the usual inter-file linkages, so you can use the model without restoring the links after you've downloaded the files. There is only one E&D scenario, instead of the usual set of 2-10 scenarios representing different alternatives for decision.
2. Open Arctic_IMPAK.xls: enable macros. (This file and its derivatives are also known as "Arctic IMPAK: Step 1" or "Arctic IMPAK-1"). This uses the E&D scenario (see the Data Entry worksheet) to estimate the first round of spending, by sector, in each onshore area. See later note for information on inter-file linkages in fully functional model.
3. Open OCSEIM.sample.Arctic.Link.xls: enable macros but don't update. In a fully functional model, a version of this file (usually called Arctic Data Link) serves 3 purposes. First, it is linked backward to the various alternate E&D scenarios and forward to IMPAK-1's Data Entry worksheet. This allows the user to easily switch among alternate E&D scenarios, using a single Replace … command to change all the links in the Data Entry worksheet of IMPAK-1.[1] Second, it allocates the single Personal Consumption Expenditure (PCE) estimate for each onshore area (found near the bottom of each IMPAK-1 output worksheet) among the various PCE sectors. [2] Third, it reallocates PCE and goods & services expenditures from North Slope Borough (NSB) or from Rest of Alaska (RoAK) to the next larger onshore area when the smaller area does not have multipliers. E.g., research for developing Arctic IMPAK-1 indicated the presence of a sand and gravel industry (IMPLAN sector 41) in the NSB, and IMPAK-1 allocates expenditures to that sector. However, the Federal/IMPLAN data bases show no

[1] This could be done directly from the E&D file, but E&D scenarios come to the user in various formats, so in earlier model usage it was easier to have a standardized set of worksheets to link to the original E&D file than to completely reorganize each new E&D file.

[2] If you look at the links in the formula bar, note that OCSEIM.sample.Arctic.IMPAK1.xls and Arctic_IMPAK.xls are the same file. Arctic_IMPAK.xls is the posting name, because that is what it would be called in the JFA documentation.

sector 41 activity (and thus no multipliers) in the NSB, so the NSB sector 41 expenditures are re-allocated to RoAK sector 41 in Arctic Data Link.
Note that this version aggregates across years, to avoid displaying thousands of repetitive rows of annual data.

4. Open OCSEIM.sample.Arctic.IMPAK-2.mdb. You must have at least MS Access 2000 to open this file. Among the tables, you will see 4 tables imported from Arctic Data Link (OCSEIM.sample.Arctic.Link.xls): NSB Output, PCE, RoAK Output, and RoUS Output. These are the estimates from IMPAK-1, after appropriate re-allocation to account for "missing" sectors in local onshore areas. In a fully functional model, these would be linked, rather than imported. Most of the other tables are imported IMPLAN multipliers.[3] To get the estimated employment, personal income, total value added, and total output from our sample E&D scenario and model, double click on the following queries:
    - KEY_Output_Table_Maker (already done, but you can replace)
    - KEY_PCE_Table_Maker (already done)
    - qrymtAll_Total (already done)
    - qrymtNSB00 Empl-PI-VA-Out demo (already done)
    - qrymtRoAK00 Empl-PI-VA-Out demo
    - qrymtRoUS00 Empl-PI-VA-Out demo.[4]

   Or, you may right-click on the query, select Design View (to see the structure of the query), then click on the red exclamation mark or execute from the command menu. The 3 initial setup queries and the first "results" query are done for you, but you can simply rerun the queries and replace the existing tables.
5. The last step is to export the query results to Excel files and combine them into appropriate tables. That is left to you.

Some Additional Notes

1. The 4 files that comprise the OCS Economic Impact Model for the Arctic also are collectively known as "Arctic IMPAK." Sometimes the latter term is used only to refer to the first-step model created by Jack Faucett Associates (see downloadable file Arctic_IMPAK.xls), and it is used that way throughout the JFA documentation. In strict MMS usage, the JFA model is Arctic IMPAK: Step 1 (or Arctic IMPAK-1), and the MMS-created Access file is Arctic IMPAK: Step 2 (or Arctic IMPAK-2).

2. Although this model contains all the components and data of a full version of Arctic IMPAK (less the alternate E&D scenarios), many of the linkages have been replaced by

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[3] These multipliers are proprietary and are included for demonstration purposes only. Any unauthorized use for purposes other than evaluating the demo model is prohibited by law.

[4] The first five letters in a results-query name indicate that it is a make-table query (one that makes a table). The remainder of the filename identifies the table created by the query: local onshore area:IMPLAN data year:estimate categories:(usually)E&D identifier. E.g., the table named tblNSB00 Empl-PI-VA-Out.PP02-07Base1 would show Employment, Personal Income, Value Added, and Output estimates for the North Slope Borough, using 2000 IMPLAN multipliers and the E&D scenario for the Proposed Program's Alternative 1 Base Case.

the data so that you don't have to re-establish all the links before you can use the model. Furthermore, 1 or more of the 3 files other than IMPAK-1 must be revised when at least one of the following occurs: a new E&D scenario is used and/or new IMPLAN multipliers are available. Updating sectors to match the new IMPLAN data can take days of tedious revisions and auditing.

Basics for User of Fully Functional Model (Does not Apply to Demo)

To use a model that is "ready,"[5] there are only five steps.

1. Copy the data from the E&D scenario into the appropriate cells in E&D…xls (from template).
2. Link the corresponding cells in Arctic Data Link to those in the E&D file.
3. Make sure the cells in the Data Entry worksheet of IMPAK: Step 1 (IMPAK-1) are linked to the right alternative/case. If not, use Excel's Find & Replace function (Menu Bar: Edit→Replace…) to change the cell references. Once you've filled in Find What: and Replace With:, clicking on the Replace All button will change all the relevant cell contents.
4. Run the MS Access queries in IMPAK-2...mdb.
5. Export the results from IMPAK-2...mdb to your results spreadsheet.

[5] "Ready" means that there is no need to bring in new multiplier or such data (this does not refer to E&D data), the Arctic Data Link file has a sufficient number of worksheets for the relevant alternative-case combinations, and all necessary links have been created. If the first two of these conditions exist and the filenames/folders have not been changed since the last time the models were run, there should be no need to recreate the links before running the models again.